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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/737,113

12/16/2003

Robert E. Briley

17006-14

5494

7590

05/04/2007

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EXAMINER

KRUER, KEVIN R

ART UNIT

PAPER NUMBER

1773

MAIL DATE

DELIVERY MODE

05/04/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/737,113

Applicant(s)

BRILEY, ROBERT E.

Examiner

Kevin R. Krueer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on February 6 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,8,10,11,13,15 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6,8,10,11,13,15, and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 6, 2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 8, 10, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keener (US 6,403,230) in view of Kishikawa et al (2002/0029826) for reasons of record.

Keener teaches a method of masking an aluminum fastener prepared by providing an aluminum alloy article precursor that is not in its final heat treated state and providing a curable organic coating thereon (abstract). The fastener may be a rivet (col 4, line 31). With regard to the newly added "heat treated" limitations, Keener teaches the rivet may be heat-treated to increase its shear strength after solution treating/annealing, but prior to the other processing steps (col 4, lines 55+). The fastener is optionally chemically etched, grit blasted or other-wise processed to roughen its surface and thereafter anodized in chromic acid solution (col 5, lines 48+). The

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curable coating may comprise a phenolic resin, strontium chromate, and a solvent such as ethanol, toluene, or methyl ethyl ketone (col 6, lines 42+). The rivet is used to rivet two workpieces together (Fig 7) while the coating seals the rivet (col 8, lines 9+).

Keener does not explicitly teach the coating should be cured under the claimed conditions. However, Keener teaches that the rivet and the applied coating may be heated together to a suitable temperature in order to achieve heat aging and curing in a single step (col 7, lines 19+). The temperature and time of said step is selected to be that required to achieve the desired properties. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the time and temperature at which the coating was cured. The motivation for doing so would have been to obtain a rivet with the desired properties.

Keener teaches that the coating provides the rivet with corrosion protection (col 1, lines 49+), but does not teach the claimed thickness of said coating. However, it is known in the art that corrosion protection is proportional to coating thickness. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the coating thickness of the organic coating. The motivation for doing so would have been to optimize corrosion resistance.

Keener does not teach that the coating should contain polyvinyl butyral. However, Kishikawa teaches a surface-treated metal comprising a corrosion inhibitor and a binder, wherein the binder comprises a mixture of polyvinyl butyral with another resin compatible with the butyral resin (abstract), such a phenol (0024). The butyral is very soft and flexible and adapts without difficulty to the changing shape of the metal

(000027). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add polyvinyl butyral to the phenolic coating taught in Keener. The motivation for doing so would have been that the polyvinyl butyral would allow the coating to adapt without difficulty to the changing shape of the rivet.

4. Claims 1, 3, 4, 6 15, and 18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Keener (US 6,403,230) in view of Kishikawa et al (2002/0029826), as applied to claims above, and further in view of Nonweiler et al (US 5,610,215) and Kaneko et al (US 4,421,789) for reasons of record.

Keener in view of Kishikawa is relied upon as above. Specifically, Keener teaches that the rivet may be grit blasted, but does not teach that the rivet may be grit blasted with aluminum oxide. However, Nonweiler teaches that aluminum oxide is known in the art to be useful for grit blasting aluminum substrates (col 7, lines 7+). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize aluminum oxide to grit blast the rivet taught in Keener. The motivation for doing so would have been that such a process is known in the art.

Keener also does not teach that the coating should be washed with chromic acid and a fluorine compound. However, Kaneko teaches a method of improving the corrosion resistance of an aluminum substrate by subjecting said substrate to a chromating treatment (col 2; lines 34+). Such treatments involve washing the substrate with a solution containing chromic acid and fluorides. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to chromate the surface of the rivet taught in Keener with a solution comprising chromic acid and a

fluorine compound. The motivation for doing so would have been to improve its corrosion resistance.

### ***Response to Arguments***

Applicant's arguments filed February 2, 2006 have been fully considered but they are not persuasive.

Applicant argues that it is clearly not suitable to expose the coated article of Keener to a temperature below 200F in order to achieve heat aging and curing in a single step. The examiner notes that said argument is not commensurate with the claims in that the claims don't require a heating step below 200F. Furthermore, the cited section of Keener (col 7, lines 5-10) refers to a drying step for 2min and does not explicitly state the use of such temperatures is insufficient for curing.

Applicant further argues that claim 8 and 11 recited separate heat treating steps. The examiner notes that Keener teaches both simultaneous (col 7, lines 18+) and separate processes (col 4, lines 55+).

According to applicant, the disclosure at column 7, lines 45-50 of Keener teaches that higher temperatures are necessary to achieve heat aging and curing. The examiner notes that said temperatures/times are taught for a specific alloy/coating combination. Claim 1 of Keener reads much broader. Furthermore, the examiner notes that the claimed step of heating at "250F for one hour" is part of the process disclosed by Keener at column 7, lines 45-50. Thus, said disclosure reads on a process ***comprising*** said step. It is not clear from the claim if the curing step of heating at 250F for one hour must be kept below 300F or if the entire process must be kept below 300F.

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The claim has been interpreted such that the curing step of heating at 250F for about one hour must be kept below 300F.

Applicant's argues the secondary references fail to cure the deficiencies of Keener. The examiner respectfully disagrees for the reasons noted above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin R. Kruer  
Patent Examiner-Art Unit 1773